

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Original): A transmitter that is applied to a radio communication system, and transmits a radio frame to a receiver using at least one available channel, the transmitter comprising:

a transmission media-access-control unit that divides, when the transmitter transmits data using two or more channels, the data into number of applying channels to be used, and generates transmission data for each of the channels using divided data;

a radio-frame generating unit that generates a radio frame that contains each of the transmission data; and

a transmission applying-channel notifying unit that inserts channel information for identifying a channel into each radio frame, wherein

the transmitter transmits each radio frame containing the channel information.

Claim 2 (Original): The transmitter according to claim 1, wherein
the transmission applying-channel notifying unit inserts the channel information into an unused area of transmission data generated by the transmission media-access-control unit.

Claim 3 (Original): The transmitter according to claim 1, wherein
the transmission applying-channel notifying unit inserts the channel information into a preamble of the radio frame.

Claim 4 (Original): The transmitter according to claim 1, wherein
the transmission applying-channel notifying unit notifies the channel information to
the radio-frame generating unit, when the radio-frame generating unit generates the radio
frame using the channel information, and

the radio-frame generating unit executes a predetermined transmission processing on
each transmission data, and uses the channel information for an initial value of a scramble
processing as one of the transmission processing, when generating the radio frame.

Claim 5 (Original): The transmitter according to claim 1, wherein
the radio-frame generating unit includes an encoding unit that encodes the
transmission data contained in the radio frame,
the transmission applying-channel notifying unit inserts the channel information into
an encoding-unit initializing section for initializing the encoding unit within the radio frame,
and
the radio-frame generating unit initializes the encoding unit at a timing when an input
of a pattern of the encoding-unit initializing section to the encoding unit is completed.

Claim 6 (Original): The transmitter according to claim 1, wherein
the transmission media-access-control unit checks a reception state of a plurality of
channels belonging to the radio communication system, and determines the applying channel
based on a result of the check.

Claim 7 (Original): The transmitter according to claim 1, wherein
the channel information includes at least one of an identical frame mark for
identifying whether a radio frame received by the receiver is addressed to a local apparatus

and applying-channel-number information indicating a channel number of the applying channel.

Claim 8 (Original): The transmitter according to claim 7, wherein the applying-channel-number information includes information indicating an order of transmission frames generated by the transmission media-access-control unit by dividing transmission data.

Claim 9 (Original): The transmitter according to claim 3, wherein when a wireless local-area-network is used as the radio communication system, the channel information to be inserted into the preamble is a special preamble pattern obtained by inverting a polarity of a part of either one of a short training symbol and a long training symbol that constitute a preamble of the wireless local-area-network frame.

Claim 10 (Original): A receiver that is applied to a radio communication system, and receives a radio frame from a transmitter in the radio communication system using at least one available channel, the receiver comprising:

a receiving unit that generates reception data by performing a predetermined reception processing on the radio frame received from the channels;

a reception applying-channel notifying unit that extracts reception data addressed to a local apparatus based on either one of information extracted by the reception processing and channel information contained in the reception data; and

a reception media-access-control unit that generates a reception frame by reassembling an original transmission frame from the reception data extracted by the reception applying-channel notifying unit.

Claim 11 (Currently Amended): The receiver according to claim 10, wherein the receiving unit executes a descramble processing as the predetermined reception processing, and outputs an initial value extracted by the descramble processing to the transmission reception applying-channel notifying unit.

Claim 12 (Currently Amended): The receiver according to claim 10, wherein the receiving unit executes a demodulation processing as the predetermined reception processing, and outputs at least one of a preamble generated by the demodulation processing and data of an encoding-unit initializing section contained in demodulated data to the transmission reception applying-channel notifying unit.

Claim 13 (Original): A radio communication apparatus that is applied to a radio communication system, and communicates with other radio communication apparatus in the radio communication system using at least one available channel, the radio communication apparatus comprising:

a transmitter that includes

a transmission media-access-control unit that divides, when the transmitter transmits data using two or more channels, the data into number of applying channels to be used, and generates transmission data for each of the channels using divided data;

a radio-frame generating unit that generates a radio frame that contains each of the transmission data; and

a transmission applying-channel notifying unit that inserts channel information for identifying a channel into each radio frame, wherein

the transmitter transmits each radio frame containing the channel information; and
a receiver that includes

a receiving unit that generates reception data by performing a predetermined
reception processing on the radio frame received from the channels;
a reception applying-channel notifying unit that extracts reception data
addressed to a local apparatus based on either one of information extracted by the
reception processing and channel information contained in the reception data; and
a reception media-access-control unit that generates a reception frame by
reassembling an original transmission frame from the reception data extracted by the
reception applying-channel notifying unit.

Claim 14 (Original): The radio communication apparatus according to claim 13,
wherein

the transmission applying-channel notifying unit inserts the channel information into
an unused area of transmission data generated by the transmission media-access-control unit,
and

the reception applying-channel notifying unit extracts the channel information from
the reception data.

Claim 15 (Currently Amended): The radio communication apparatus according to
claim 13, wherein

the transmission applying-channel notifying unit notifies the channel information to
the radio-frame generating unit, when the radio-frame generating unit generates the radio
frame using the channel information,

the radio-frame generating unit executes a predetermined transmission processing on each transmission data, and uses the channel information for an initial value of a scramble processing as one of the transmission processing, when generating the radio frame, and

the receiving unit executes a descramble processing as the predetermined reception processing, and outputs an initial value extracted by the descramble processing to the transmission reception applying-channel notifying unit.

Claim 16 (Currently Amended): The radio communication apparatus according to claim 13, wherein

the transmission applying-channel notifying unit inserts the channel information into a preamble of the radio frame, and

the receiving unit executes a demodulation processing as the predetermined reception processing, and outputs a preamble generated by the demodulation processing to the transmission reception applying-channel notifying unit.

Claim 17 (Currently Amended): The radio communication apparatus according to claim 13, wherein

the radio-frame generating unit includes an encoding unit that encodes the transmission data contained in the radio frame,

the transmission applying-channel notifying unit inserts the channel information into an encoding-unit initializing section for initializing the encoding unit within the radio frame,

the radio-frame generating unit initializes the encoding unit at a timing when an input of a pattern of the encoding-unit initializing section to the encoding unit is completed, and

the receiving unit executes a demodulation processing as the predetermined reception processing, and outputs data of an encoding-unit initializing section contained in demodulated data to the transmission reception applying-channel notifying unit.

Claim 18 (Original): The radio communication apparatus according to claim 13, wherein

the transmission media-access-control unit checks a reception state of a plurality of channels belonging to the radio communication system has, and determines the applying channel based on a result of the check.

Claim 19 (Original): The radio communication apparatus according to claim 13, wherein

the channel information includes at least one of an identical frame mark for identifying whether a radio frame received by the receiver is addressed to a local apparatus and applying-channel-number information indicating a channel number of the applying channel.

Claim 20 (Original): The radio communication apparatus according to claim 19, wherein

the applying-channel-number information includes information indicating an order of transmission frames generated by the transmission media-access-control unit by dividing transmission data.

Claim 21 (Original): The radio communication apparatus according to claim 16, wherein

when a wireless local-area-network is used as the radio communication system, the channel information to be inserted into the preamble is a special preamble pattern obtained by inverting a polarity of a part of either one of a short training symbol and a long training symbol that constitute a preamble of the wireless local-area-network frame.